REMARKS

In response to the Final Action of October 16, 2007, Applicants submitted an Amendment dated December 4, 2007. In the Advisory Action mailed February 7, 2008, the Examiner indicated that the Amendment dated December 4, 2007 would not be entered because it raised new issues that would require further consideration and/or search. With respect to these issues, the Examiner stated on page 2 of the Advisory Action that:

> Entry of Applicants' amendment would result in 112, first and second paragraph issues with the withdrawn/canceled claims upon rejoinder. For example, the "protecting groups of the carboxylic component" and "the permanent protection groups" lack antecedent basis is [in] presently withdrawn claim 43. Likewise, canceled claim 47 lacks method steps for the split and mix protocol that would raise potential issues under both 112, first paragraph and 112, second paragraph because it is unclear how the split and mix steps are being applied, or alternatively, if they're even being applied at all.

Favorable consideration of this application is respectfully requested in view of the above amendments and following remarks.

At the outset, Applicants thank the Examiner for the time previously spent in telephonic interviews with the undersigned on behalf of Applicants for the purpose of placing the case in condition for allowance. During the telephone conversations, the Examiner indicated the possibility of rejoining the withdrawn claims 40, 43, 50-54 and cancelled claim 47 upon allowance of claims 28-39, 41, 42, 44, 45, 46, 48, 49, 55, 57, 58, 59, 60, 61, 62, 63. In view of the possibility of rejoinder of such claims and to address the amendment of claim 43, Applicants have changed the claim identifier of claim 43 from "withdrawn" to "currently amended."

Claims 28, 34, 35, 43, and 57-62 have been amended. In particular, to address the §102(b) of claims 28, 30, 31, 36, 41, 42, 44-46, 49 and 55 as being unpatentable by Carpino et al. (J. Org. Chem. 1999, 64, 4324-4338) as allegedly evidenced by Solomons et al., (Organic Chemistry Fifth Edition. New York: John Wiley & Sons, 1992, page 94, Table 3.1) and Lide (CRC Handbook of Chemistry and Physics, ed. DA Lide, 85th Edn., CRC Press, Cleveland OH,

2004-2005, web page 1), and the §103(a) rejection of claims 28-31, 36, 41, 42, 44-46, 48, 49 and 55 as being unpatentable over Carpino et al., WO 00/71569 (Tolle et al.) and Houghten et al., Nature 1991, 354, 84-86 (Houghten et al), claim 28 has been amended to include the feature of claim 56, i.e., "wherein the anion is selected from the group consisting of carboxylate, sulfonate, sulfate, phosphonate, phosphate and phenolate." Accordingly, claim 56 has been cancelled and claims 57-62 have been amended to change the dependency from claim 56 to claim 28.

In view of the above, withdrawal of the rejection of the aforementioned claims under 35 U.S.C. §102(b) and §103(a) is respectfully requested.

With respect to the §112, first paragraph and second paragraph issues, the Examiner indicated during a telephonic interview that there was no antecedent support in claim 43 (which depends from claim 28) for the phrases "protecting groups of the carboxylic acid component" or "permanent protection groups of the growing peptide". To address the Examiner's contention and to further clarify the invention with respect to the phrase "protecting groups of the carboxylic acid component", claim 28 has been amended to recite in step (a) "carboxylic acid component comprising at least one temporary protecting group..." and in step (b) "at least one temporary protecting group on the growing peptide". It is believed that this amendment to claim 28 collectively finds support in the specification, e.g., on page 3, lines 24-26 and page 5, lines 28-32. In addition, claim 43 has been amended to recite the phrase "at least one temporary protecting group of the carboxylic component". It is believed that this amendment to claim 43 finds support in the specification on page 3, lines 24-26.

In addition to further clarify claim 43, this claim has been amended to recite "at least one permanent protecting group attached to the growing peptide". It is believed that the amendment to claim 43 collectively finds support in the specification on page 5, lines 7-9 and page 3, lines 24-26. With respect to the Examiner's contention that there is a lack of antecedent support in claim 43 for the phrase "permanent protection groups of the growing peptide", it is asserted that the inclusion of a phrase pertaining to a permanent protecting group in step (b) of claim 28 to allegedly provide antecedent support for the phrase "permanent protecting group" in claim 43 is not necessary because there are circumstances which would be known to one skilled in the art in performing a peptide synthesis in which there would be no need for a permanent protection group to perform step (b) of claim 28.

In peptide synthesis, there is a need for permanent protecting groups, if: 1). the C-terminal and/or side-chain functionalities of the growing peptide chain are reactive during the assembly of the peptide sequence, thus competing with the desired reactions; 2) anchoring in the organic phase is required by means of hydrophobic protecting groups, as may be the case for the process of the present invention; 3) penetration of amino acids into a hydrophobic matrix is required by applying hydrophobic (side-chain) protecting groups, as may be the case for the solid phase peptide synthesis process. If none of these conditions is met, there is no need for a permanent protecting group. Hence, if for instance a peptide with the intrinsically hydrophobic sequence H-Phe-Phe-Phe-NH_2 is prepared according to the process of the present invention, no permanent protecting group is required. Accordingly, Applicants believe that inclusion of a phrase pertaining to a permanent protection group is not essential to perform step (b) of claim 28.

To address the Examiner's contention that cancelled claim 47 lacks method steps for the split and mix protocol that would raise potential issues under §112, because it is unclear how the split and mix steps are being applied, new claim 64 is added which recites "A method for combinatorial synthesis of a peptide library, wherein the process of claim 28 is used in a split and mix fashion to produce a peptide library." Support for the language in claim 64 can be found in the specification on page 5, lines 17-19. It is asserted that this claim is not unclear as to how the split and mix methods would be applied in the present process in view of the explanation presented below and the article by Sebestyen et al., Bioorganic & Medicinal Chemistry Letters, Vol. 3 (3), pp. 413-418, 1993 (a copy of which is attached hereto) which explains the split and mix method as a means of generating a peptide library.

The term split and mix in conjunction with combinatorial chemistry refers to a synthesis process, in which a reaction mixture is partly processed in one portion for common process steps and partly processed in separate portions for diversifying process steps. Hence, in the concrete example of the process of the present invention, if one is to synthesize a peptide library consisting of equimolar amounts of the tripeptides H-C1-B1-A-OEt, H-C2-B1-A-OEt, H-C3-B1-A-OEt, H-C1-B2-A-OEt, H-C2-B2-A-OEt, H-C3-B2-A-OEt, H-C1-B3-A-OEt, H-C2-B3-A-OEt and H-C3-B3-A-OEt, in which the terms A, Bx and Cx refer to different amino acids, in step a of the first cycle three equal portions of the reaction mixture containing H-A-OEt are coupled to

either Prot-B1-OH, Prot-B2-OH or Prot-B3-OH, in which Prot refers to a temporary protecting group. In the following steps (b-c) of the first cycle, the portions are processed in a combined fashion. The reaction mixture is again split into three equal portions for step (a) of the second cycle, in which either Prot-C1-OH, Prot-C2-OH or Prot-C3-OH is coupled. The remaining steps of the second cycle are again performed in a combined fashion, resulting in the desired peptide library.

Applicants also note that new claims 65 and 66 have been added. Support for the language in new claims 65 and 66 can be found in the specification, e.g., the paragraph bridging pages 5-6. It is believed that no new matter has been added.

Applicants have also amended claims 34 and 35 as suggested by the Examiner during one of the telephonic interviews to further clarify these claims.

In view of the above, it is believed that the above claim amendments and remarks address the §102(b) and §103(a) rejections, and the §112, first and second paragraph issues raised by the by the Examiner.

In the Final Action, claims 28-39, 41, 42, 44-46, 48, 49, 55-57 and 63 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 28-51 of copending Application No. 10/692,354 (the '354 application).

In response, Applicants note that the '354 application has been expressly abandoned (see attachment).

In view of the above, withdrawal of the obviousness-type double patenting rejection is respectfully requested.

A good faith effort has been made to place the present application in condition for allowance. If the Examiner believes a telephone conference would be of value, he is requested to call the undersigned at the number listed below.

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Attachments